

What's New with Amazon S3

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What's new in 2025

1. Tag-based Access Control
2. Post-Quantum TLS
3. New SSE-C Controls
4. Better 403's within Orgs
5. Org-level BPA
6. Fixity at Rest
7. S3 Express Price Reductions
8. S3 Express TPS Improvement
9. S3 Express Rename Object
10. S3 Express Granular Access
11. Conditional Copy
12. Conditional Delete
13. Object Tagging Price Cut
14. No-manifest BOPs
15. BOPs Job Progress
16. BOPs Easy IAM Roles
17. BOPs 20B Objects per Job
18. BOPs 10x Performance
19. Large Objects
21. Iceberg REST Catalog support
22. Table limit raise
23. Sort compaction
24. Compaction price cut
25. Set schema on CREATE
26. S3 Tables Intelligent-Tiering
27. Table-level CloudWatch/CloudTrail
28. Table-level cost reporting
29. Table-level KMS keys
30. Table replication
31. Query tables in Unified Studio
32. Journal Table
33. S3 Metadata Price Cut
34. Live Inventory Table
35. S3 Vectors

A grayscale image of a space shuttle launching, positioned on the left side of the slide. The shuttle is ascending vertically, leaving a trail of white smoke and fire from its engines. The background is a dark, gradient sky.

NOVEMBER 20, 2025

Tag-based Access Control

Control permissions using simple policies
and tags



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AWS News blog on TBAC for S3 buckets:



Encryption evolves.

2011

SSE-S3

Encryption keys managed by S3

2014

SSE-KMS

Encryption keys managed by you, using KMS

2014

SSE-C

Encryption keys managed by you

2020

BUCKET KEYS

KMS key caching to reduce request cost

2025



PQ TLS

Post-quantum encryption over the wire



Checksum options on upload



SHA-256

SHA-1

CRC32

CRC32C

CRC64

MD5



A grayscale image of a space shuttle launching, positioned on the left side of the slide. The shuttle is ascending vertically, with its main engines and boosters visible, and a large plume of white smoke trailing behind it.

AUGUST 18, 2025

Data Integrity Checks

Efficiently run checksum operations against
data at rest



Operation

Operation

Choose the operation you want to perform on all objects listed in the manifest. If your manifest references objects stored in a directory bucket, only use the copy or invoke AWS Lambda function operations. All other operations will result in failure.

Compute checksum - new

Compute checksum

For objects stored in Amazon S3, use the Compute checksum operation with S3 Batch Operations to efficiently verify objects for data at rest. When the Compute checksum job request completes, you can use the automatically generated integrity reports to prove that data sets remain intact over time. [Learn more](#)

Checksum type

- Full object
Amazon S3 will store the checksum of your whole object.
- Composite
Amazon S3 calculates the checksum value for the entire object based on the checksum values of the individual parts.

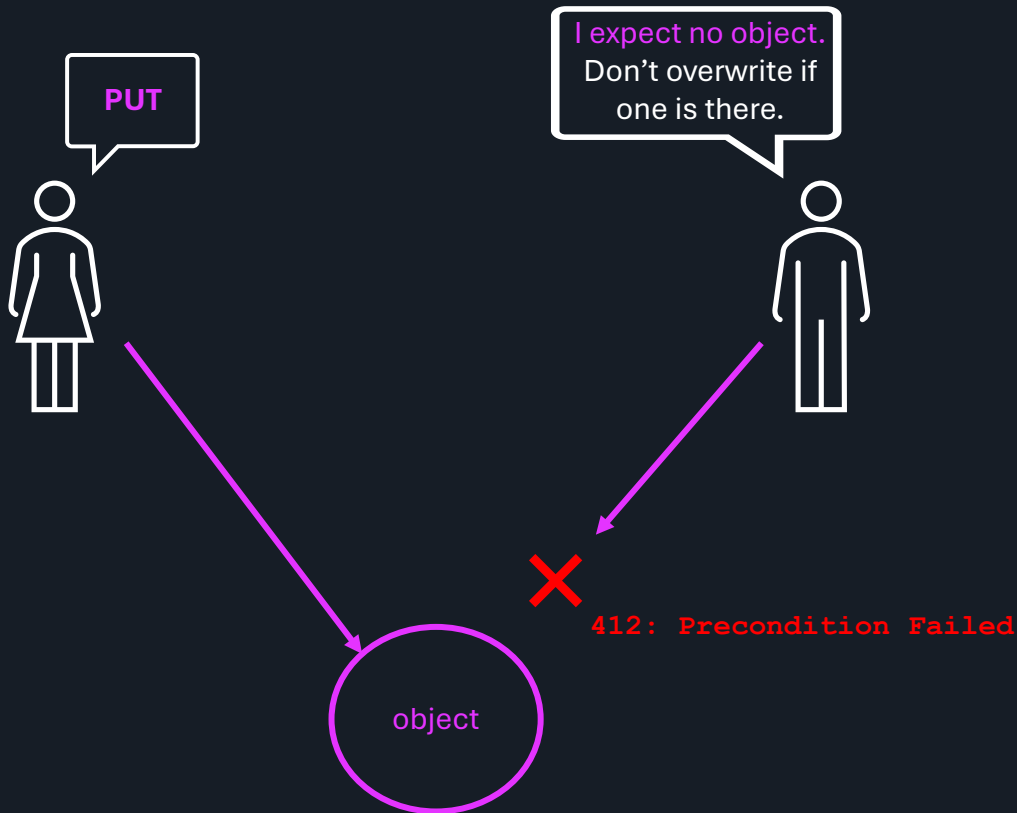
Checksum algorithm

Choose the checksum algorithm that should be used to calculate the checksum value.

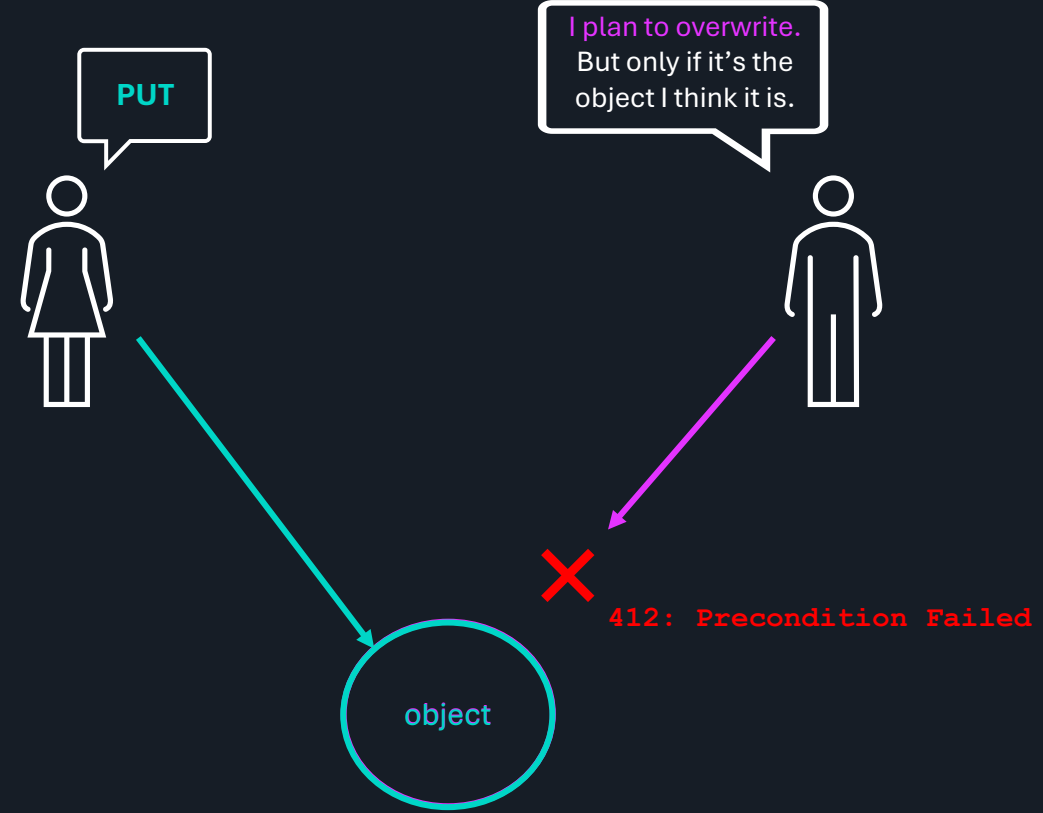
SHA256

More efficient than DIY
No need to spin up compute
Does not affect Intelligent-Tiering
Works for Glacier with no restore

Last year we launched conditional writes.




PUT if absent



PUT if match



A faint, grayscale illustration of a space shuttle launching, positioned on the left side of the slide.

OCTOBER 29, 2025

Conditional Copy

Verifies existence or match
on COPY request

SEPTEMBER 16, 2025

Conditional Delete

Verify match on
DELETE request

A grayscale image of a space shuttle launching, with smoke and fire from its engines. The shuttle is oriented vertically, pointing upwards.

RE:INVENT 2025

Large Objects

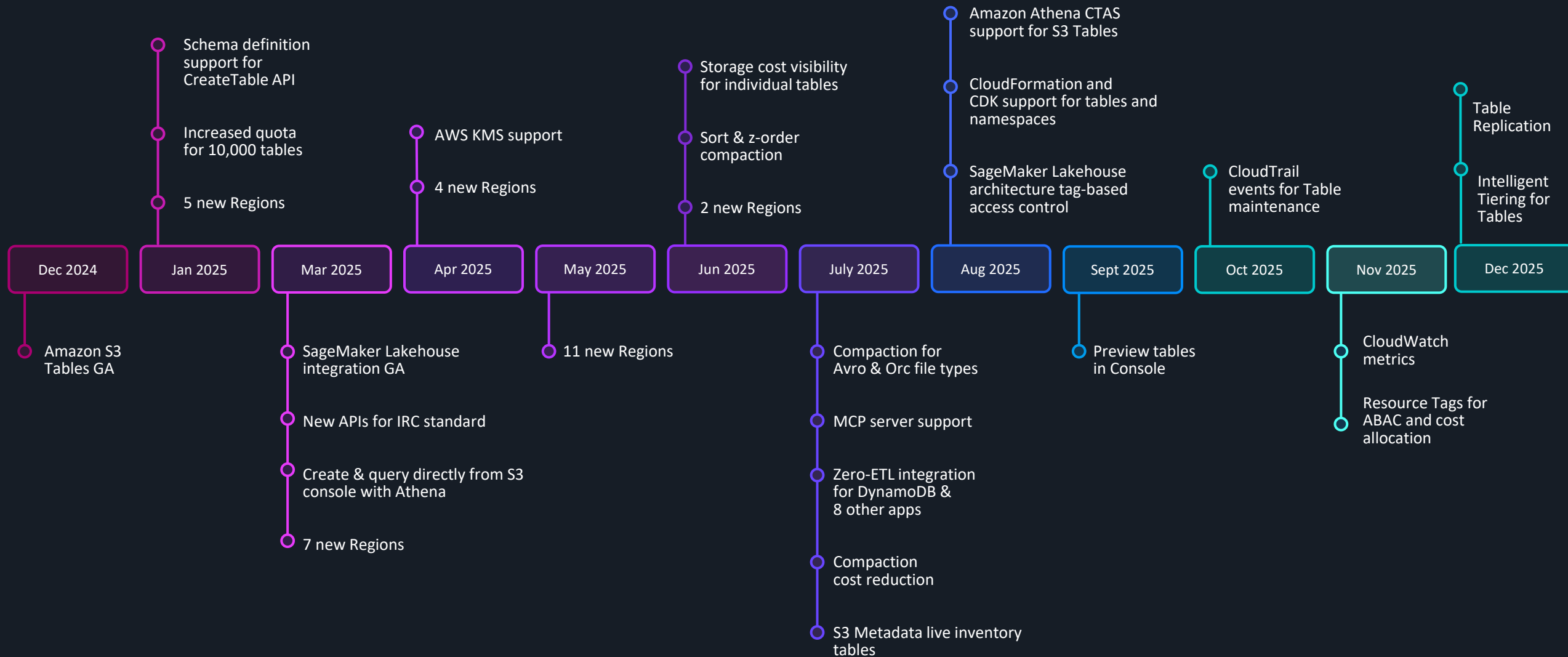
Support for objects up to 50TB

S3 Tables

Fully managed Apache Iceberg tables in S3



S3 Tables launched at re:Invent 2024



S3 Vectors

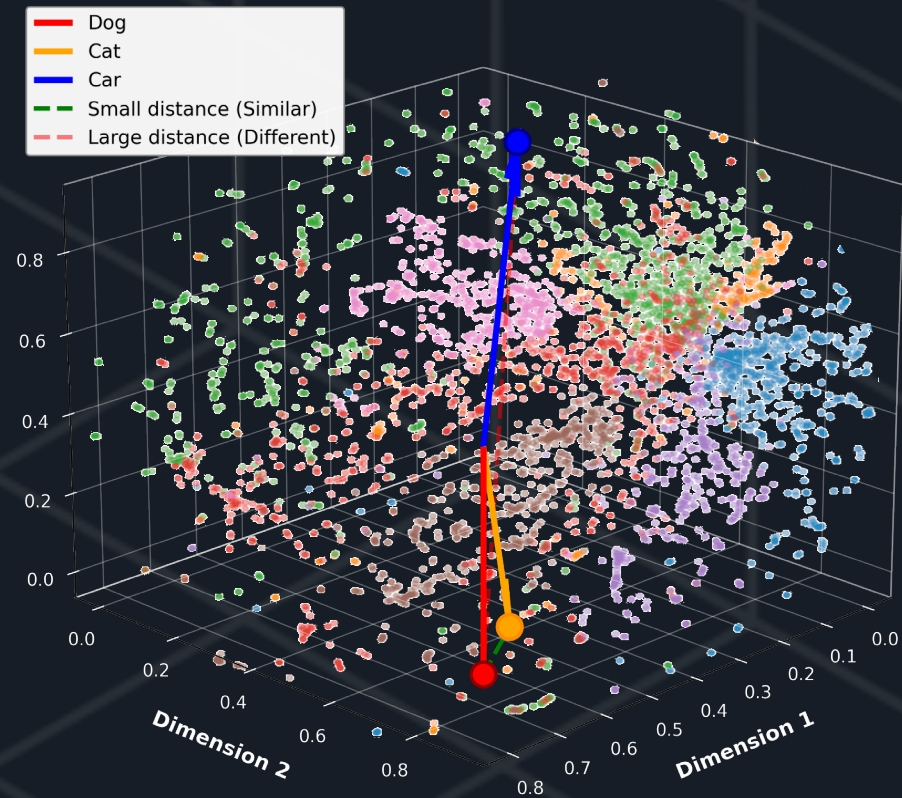
Enabling AI systems to store and query vectors natively in S3



What are vector embeddings?

- Numerical representation of meaning
- Generated by Machine Learning (embedding) models
- Vector Embeddings can be text, sentences, images, video and audio

Vector Space: Similar Items Cluster Together





1GB
of photos

~250
vectors

~1MB
(0.1%)



1GB
of 8K video

~300
vectors

~1-2MB
(0.1%)

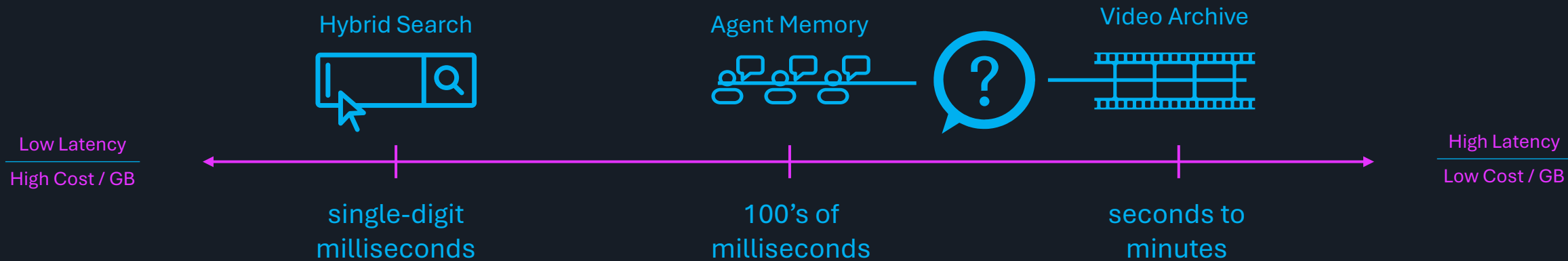


1GB
of text

~570,000
vectors

~2,300MB
(230%)

Storage requirements



GENERAL AVAILABILITY

Amazon S3 Vectors

Billion-scale vector store offering up to 90% lower costs for uploading, storing, and querying vectors

100ms

or less latency for more frequent queries

2B

max vectors stored & queried per index — 40x the preview capability

10,000

indexes per bucket, supporting up to 20 trillion vectors

1,000

vectors/second when streaming single vectors, get up to 100 search results per query



Thank you!

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